Forcipate emerald

Somatochlora forcipata

Status

Federal status: G5 N4, Not listed
NH state status: S?, Not listed
ME state status: S?, Not listed

Local experts provided input through e-mail and letters instead of a panel. They agreed that this species should be kept on the list as a special concern, but viability outcomes were not given.

Distribution

In North America this species ranges across Canada and south to Minnesota and West Virginia. Distribution data is known to be incomplete due to lack of comprehensive surveys and tracking.

Odonates are known to be under-represented in the NHNHI database. Another source documents this species as occurring historically in Fitzwilliam, Mt. Washington, Profile Lake, The Glen, and Church Ponds. The Church Pond location was definitely on the WMNF. The occurrences at Mt. Washington, Profile Lake, and The Glen were near the WMNF; the Mt Washington occurrence may have been on the Forest. There have not been documented surveys since the 1970's, so this species may still occur at these locations. It has been documented in the following towns of Maine: Waltham Twp, T7R5Wels Twp (Aroostook County), Franklin Twp, T3R1NBPP Twp (Penobscot County), and T3R4BKPWKR Twp (Somerset County), Burlington Twp, and Devereax Twp. None of these occurrences are on or near the WMNF.

Habitat

Somatochlora forcipata are usually found breeding in spring-fed steamlets trickling through subalpine hillside fens or in pools associated with flowing groundwater in bogs and fens. They often select areas with floating or emergent aquatic vegetation. Eggs have been deposited in mud-bottomed streamlet pools, but whether additional habitats are used is unknown. Adults have been seen using shady glades in open spruce forests, and seem to avoid open, sunny fen areas. How far adults travel from their breeding habitat is unknown.

Limiting Factors

Loss of wetland habitat to rural and urban development is a key concern for all odonate species. Wetland habitats have decreased in abundance and quality. There is a danger that its breeding sites, which tend to be small pools and streamlets, may be overlooked and modified in development plans despite increased wetland protections. Because of its attachment to cool, flowing groundwater, *Somatochlora forcipata* may be particularly sensitive to changes in local hydrology and aquatic temperatures. What level of change would result in a negative impact is unknown. Odonate larvae in general are sensitive to water pollution and sedimentation.

Sensitivity of adults to canopy opening is uncertain. One source indicates a preference for shady forest habitat and an aversion to open fen habitat, but very little is known about adult habitat use.

Viability concern

Experts agreed that this species should be protected and listed as a species of viability concern, so no surrogate was identified. It was documented on the WMNF in the 1970's and nothing indicates that it has been extirpated. Additional surveys would be needed to determine its current status on the Forest, but experts believe it is truly rare, not just poorly surveyed. Management could affect habitat.

Management activities that might affect viability

Of the habitat related threats for this species, water level fluctuation and sedimentation might relate to WMNF management. Activities that eliminate suitable pools or increase sedimentation in those pools could affect this species if it is present. Dam construction or removal, beaver dam removal, encouraging beaver activity, and road and trail construction all could affect water and sediment levels if done near to suitable bog or fen habitat. Development of recreational facilities adjacent to or through a suitable wetland could alter water flow, which could affect suitable pools. For all activity types, the level of change that would result in impacts to this species is unknown.

It is unknown whether fragmentation and regeneration harvest adjacent to suitable breeding habitat would impact adult survival or breeding success. If an area that is currently used by adults is clearcut or otherwise cleared, that might impact suitability of the forest habitat and their use of the adjacent breeding habitat. This determination is based on very limited information from one location.

References

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